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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,460	04/05/2005	Martin Fangmeier	SMB-PT 133 (pc 03 577 B U	3054
3624 7590 11/19/2007 VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			EXAMINER RIVELL, JOHN A	
			ART UNIT 3753	PAPER NUMBER
			MAIL DATE 11/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

CT

Office Action Summary

Application No.

10/530,460

Applicant(s)

FANGMEIER, MARTIN

Examiner

John Rivell

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/20/07 (amendment).
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-4, 6-12 and 14 is/are rejected.
 7) ☒ Claim(s) 5 and 13 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 05 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) ☐ Notice of Informal Patent Application
 6) ☐ Other: _____.

Applicant's arguments filed July 7, 2007 have been fully considered but they are not persuasive.

New claims 10-14 have been added. Thus claims 1-14 are pending.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "spaced apart" limitation, spacing the "restoring element" from the "sealing ring" of claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The application, as originally filed, fails to present disclosure of sufficient quality as to support the "spaced apart" feature as is now claimed in claim 6. that is, as originally filed, there is no disclosure of the "restoring ring" and the "sealing ring" being "spaced apart" as now recited in claim 6.

As set forth in the original specification at page 7, lines 5-9 and in the substitute specification at paragraph [0030]:

"As is shown in the exemplary embodiment of a backflow prevention device 1' shown in Figure 3, the sealing ring 4 and the restoring element 10 allocated thereto can also be fashioned as separate components. In the backflow prevention device 1 shown in Figure 1, the sealing ring 4 and the restoring element 10 are however connected with one another in one piece to form a sealing and restoring unit."

The language of the specification(s) merely reflects the elements disclosed as "shown" in the figures. As shown in figure 1 or 3 it cannot be conclusively determined that the "restoring ring" 10 and the sealing ring" 4 are in fact "spaced apart" as is now claimed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3753

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7-12 and 14 are rejected under 35 U.S.C. §102 (b) as being anticipated by Lieser (U. S. Pat. No. 3,056,423).

The patent to Lieser discloses, in figures 1 and 2, a “backflow prevention device, comprising a mounting housing (10) that can be inserted into a fluid conduit (read at 21), and having at least one sealing ring (25) that is held in an annular groove (24) provided on an outer circumference of the mounting housing (10) and that provides a seal between the mounting housing (10) and the fluid conduit (21), wherein when the backflow prevention device is closed and a fluid volume is sealed at a flow outlet side (at B), the sealing ring (25) can be shifted axially in the groove (24) against a restoring force (the resiliency of the material of the seal itself) from a sealing position into a leakage position in order to compensate pressure” as recited in claim 1.

Regarding claim 2, in Lieser, “the restoring force of at least one resilient elastic restoring element (e.g. the remainder of the seal element 25) acts on the sealing ring (25)” as recited.

Regarding claim 3, in Lieser, “at least one restoring element (the remainder of the seal element 25) has an annular construction” as recited.

Regarding claim 4, in Lieser, “the sealing ring (25) and the at least one restoring element (the remainder of the seal ring 25) are connected with one another in one piece to form a sealing and restoring unit” as recited.

Regarding claim 7, in Lieser, "the sealing ring (25) can be moved from the sealing position into the leakage position by a backflow that acts thereon" as recited.

Regarding claim 8, in Lieser, "at least one pressure compensation channel (23) is provided that connects an area of the groove (24) situated before the leakage position in the inflow direction to a flow inlet side (leading directly to ball check valve head 13) of the backflow prevention device" as recited.

Regarding claim 9, in Lieser, "the at least one pressure compensation channel (23) is fashioned as a slit or similar opening of the radial wall at the flow inlet side" as recited.

Regarding claim 10, in Lieser, "the annular groove (at 24) includes a downstream section in a flow direction (normal direction, from left to right) of the backflow prevention device with a first inside diameter in which the sealing ring (25) is located in the sealing position, and an upstream section (in the direction from the right to the left, from the "downstream" position") having a second inside diameter, that is smaller than the first inside diameter, in which the elastic restoring element (the remainder of the sealing ring) is located in the sealing position" as recited.

Here picture for example, the sealing ring half, at the section line 3-3 of figure 2, that extends from the section line 3-3 downstream, to the right. This half of the ring includes, at the area of the ring that is at the most downstream location, to the right, a "section" that inherently includes an "inside diameter". Now, moving upstream, to the left, along the ring half, there is another "upstream section" that inherently includes a "inside diameter". As one moves along the ring from the "downstream section" to the

“upstream section” the surface of the groove 24 arcs inwardly as one moves upstream. At the point of the “upstream section” the “inside diameter” is clearly smaller than the diameter of the “downstream section” as recited.

Regarding claim 11, in Lieser, “an annular guide segment (read at that surface of the arc of the groove as one moves from the “downstream section” to the “upstream section”)... tapers against an inflow direction (inflow from left to right) of the backflow prevention device from the downstream section to the upstream section of the annular groove” as recited.

Regarding claim 12, in Lieser, “in the leakage position (when fluid is flowing from the threads to the seal groove 24, compressing seal 25 away from contact along the upstream half of the seal groove), the sealing ring (25) shifts axially from the downstream section of the annular groove (24) at least partially into the upstream section of the annular groove” as recited.

Regarding claim 14, in Lieser, “the sealing ring (25) protrudes radially beyond the mounting housing (10) to contact an inner wall of the fluid conduit (21) in which the backflow prevention device is inserted” as recited.

Response to Arguments

Regarding applicants remarks concerning the above the argument that “the collar 21 of Lieser does not allow water passage in the flow direction (i.e. normal flow direction from left to right) and therefore by definition can’t be considered as a flow conduit” would merit patentable significance had the specification, or claim, actually defined a “flow conduit” as recited in the claim(s). Applicants assertion that “actual fluid flow is

carried via an unshown conduit through the body (10) via connection at the threads 11 and the threads at the opposite end (b) of the body (10)", i.e. the threads at 17 and 18, is agreed with. However, when fluid is flowing in an opposite direction to the normal direction, from the outlet at threads 17, to the bypass passage 22, along the threads 20, to the seal 25, compressing the seal away from the upstream section of the groove 24, to the passage 23 to the inlet at 18, to the inlet, the collar actually confines the fluid flow along at least a portion of this path. As such the collar is readable as a "flow conduit" is the absence of any claim language distinguishing such.

Additionally, in Lieser, during a potential backflow condition, when fluid is bypassed around the otherwise closed ball check valve 13, a fluid volume is sealed at the flow outlet until an overpressure condition is achieved, that condition being one in which sufficient pressure is accumulated to compress the seal 25 away from the groove 24 wall to allow the passage of fluid flow from an area of the bypass passage downstream, on the basis of backflow, from the left end of the threads 20 to the passage 23. During compression of the seal 25 away from the wall of groove 24, at least a portion of the seal must "shift axially", i.e. in a direction along the axis extending from the inlet at 18 to the outlet at 17 "in order to compensate (for) pressure" conditions present in the inlet. The act of flowing along the threads 20 of Lieser is disclosed as effecting the flow resistance provided by the passage against the flow of fluid. This does not effect the final value of pressure accumulated at the area just upstream of the seal 25. Rather the effect of the changing resistance to fluid flow merely effects the time it takes for the fluid pressure to rise to the value sufficient to compress seal 25.

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Regarding applicants remarks concerning claim 2, the argument that “there is no suggestion or disclosure in Lieser of at least one resilient elastic restoring element that acts on the sealing ring” is not well taken.

Applicant discloses two embodiments of the restoring element/sealing ring assembly. As set forth in the specification at paragraph [0030]:

“As is shown in the exemplary embodiment of a backflow prevention device 1' shown in Figure 3, the sealing ring 4 and the restoring element 10 allocated thereto can also be fashioned as separate components (emphasis added). In the backflow prevention device 1 shown in Figure 1, the sealing ring 4 and the restoring element 10 are however connected with one another in one piece (emphasis added) to form a sealing and restoring unit.”

The language of claim 2, “wherein the restoring force of at least one resilient elastic restoring element acts on the sealing ring” is readable on both embodiments and is not exclusive to the embodiment in which there is a “restoring element” separate and distinct from a “sealing ring”. Additionally, note claim 4 for example, dependent on claim 2 and therefore further limiting under 35 USC 112§(4), which further defines the structure of claim 2 such that “the sealing ring and the at least one restoring element are connected with one another in one piece to form a sealing and restoring unit”.

Claims 5 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

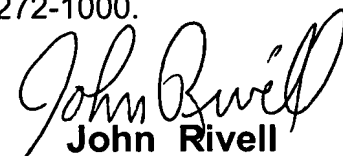
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Fri. from 6:30am-3:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Rivell
Primary Examiner
Art Unit 3753

j.r.